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10/520,604	09/26/2005	Hans-Christian Swoboda	10191/3959	9654

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EXAMINER	
OLSEN, LIN B	
ART UNIT	PAPER NUMBER
3661	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,604	SWOBODA ET AL.	
	Examiner	Art Unit	
	LIN B. OLSEN	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9,10,12-19 and 21-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,10,12-19 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the filing on August 23, 2010 of RCE and a response to the Office Action of June 8, 2010. The application currently contains 26 claims with claims 9 and 14 being independent. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 23, 2010 has been entered.

Response to Arguments

Applicant's arguments, see Pages 7-9 filed August 23, 2010 with respect to the rejection(s) of claim(s) 9, 10, 12-19 and 21-24 under 35 USC 103 have been fully considered but they are not persuasive.

The examiner agrees that:

"claim 9 relates to a method for notifying a driver of a motor vehicle equipped with an adaptive distance and speed controller, including the feature of one of activating or deactivating a takeover prompt which informs the driver that the vehicle is coming critically close to a target object to prompt the driver to perform a brake intervention. Claim 14 includes features like those of claim 9.

However, the examiner does not agree that "The Labuhn reference is not concerned with the actions of the vehicle operator, and it is therefore not concerned with

the driver performing a brake intervention. The Labuhn reference is merely concerned with an adaptive cruise control system in which when the inter-vehicle spacing at initiation of the succeeding vehicle deceleration does not provide the predetermined minimum space, the decelerating of the succeeding vehicle occurs in accordance with a predetermined maximum deceleration - but not with a driver's brake intervention."

The Labuhn reference is concerned with an adaptive cruise control system that uses controlled deceleration to prevent the vehicle from violating a desired minimum distance from a preceding vehicle and minimizes the inter-vehicle spacing, but when it cannot meet its objectives, it alerts the driver for intervention. For instance at col. 3, lines 17-19 describes the operator interaction as conventional operator controlled switches such as on/off, set switch, resume/accelerate and brake switch – collectively referred to as cruise switches and "Preferably, additional operator interfacing is accomplished by way of a driver spacing input 12 and alert module 14 as later described." (Referring to Fig. 1.)

The alert module is described at col. 4 lines 2-7:

"The alert module 14 may take the exemplary form of a vehicle instrument cluster or other display panel visual and/or audible alerting apparatus for conveying predetermined adaptive cruise control system information to the succeeding vehicle operator." – although Labuhn does not specify what the "predetermined adaptive cruise control system information" is, it will be obvious that the response desired of the operator in the relevant cases is driver intervention in performing braking.

Labuhn assures that the driver alert is clear (not attracting the operator's attention) in two circumstances:

1. – When the preceding vehicle is pulling away from the self vehicle, all is safe and the driver does not need to aid the adaptive cruise control. (Block 409 in Fig. 4 and col. 8, 36-39) or

2. When the calculated required deceleration to maintain safe range is within the predetermined adaptive cruise control deceleration limits (Block 425 in Fig. 4 and col. 9, 60-62).

Labuhn sets the driver alert in three circumstances:

1. When the preceding vehicle is coming directly at the self vehicle (Block 407 =YES in Fig, 4), determined by comparing the self vehicle velocity and how quickly the range between the vehicles is decreasing(range rate) – The control executes "step 427 to set the desired deceleration D.sub.o to a predetermined maximum deceleration D.sub.MAX, and set any appropriate driver alert," – It is evident that the controller requires and expects driver interaction, likely avoidance steering as well as either more braking than the adaptive cruise control can provide or acceleration away from the preceding vehicle (col. 8, 50-53) or

2. When in the course of trying maintain predefined distance, the "the inter-vehicle spacing is insufficient to support deceleration of the succeeding vehicle in accord with the objective of preventing violation of the minimum desired spacing, and block 427 is invoked to set the desired deceleration D.sub.o to the predetermined maximum deceleration D.sub.MAX, and set any appropriate driver alert." - In this case

the “appropriate driver alert” is meant to invoke additional braking as that is the primary way to avoid a collision (col. 5-11) or

3. Where at least some inter-vehicle spacing is available the controller calculates the deceleration needed to prevent the vehicles coming too close. “if the calculated deceleration exceeds a predetermined maximum deceleration D.sub.MAX, which generally represents a fixed calibration limit or alternatively a variable limit which corresponds to an operator controlled setting," the controlled sets the applied deceleration to the maximum allowed and sets an appropriate driver alert (blocks 419, 421 and 423) (col. 9 51-64). Clearly the appropriate action in this case is for the driver to more forcefully apply the brakes as well as try to steer away from the preceding vehicle.

Note that in all alerted cases, braking is one of the preferred responses.

Since Labuhn covers the cases where the driver needs to perform a brake intervention, neither Winner nor Asada is used for that reason. Winner is cited for the proposition that the driver is alerted when they are overriding the adaptive cruise control and Asada is cited to support that the preferred driver response to uncertainty in the conditions prevailing between two cars is to increase the braking.

Accordingly, the examiner asserts that the Labuhn, Winner and Asada references show that the claims 9, 10, 12-19 and 21-24 are obvious in light of the prior art.

Claim Objections

Claims **25-36** are objected to because of the following informalities:

In claims **31 and 34,** the claim recites “a distance-controlled and speed-controlled vehicle" where the distance-controlled and speed-controlled vehicle has already been defined.

In claims **25, 28, 31 and 34** the claim recites “a fixed minimum distance” where the fixed minimum distance has already been defined in the independent claim.

In claims **26, 29, 32 and 34**, the claim recites “a relative speed-dependent minimum distance” where the speed-dependent minimum distance has already been defined

In claims **27, 30, 33 and 35**, the claim recites “a maximum vehicle deceleration” where the maximum vehicle deceleration has already been defined

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **9, 10, 12-19, 21-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over Labuhn et al. (US 6,009,368) (Labuhn) in view of U.S. Patent. No. 5,400,864 to Winner et al. (Winner) in view of U.S. Patent No. 6,311,120 to Asada (Asada). Labuhn is concerned with an adaptive cruise control that uses deceleration control to prevent a vehicle from violating a desired minimum distance from a preceding vehicle. Winner, in the same field, is concerned with controlling the speed of a vehicle and its spacing from a preceding vehicle. Asada, also in the same field, is concerned

with how an automatic speed control system that has been following a preceding car reacts when the car gets too close or gets lost.

Regarding independent **claim 9, A method for notifying a driver of a motor vehicle equipped with an adaptive distance and speed controller, comprising:** - All three references deal with a vehicle having an adaptive distance and speed controller.

one of activating or deactivating a takeover prompt which informs the driver that the vehicle is coming critically close to a target object to prompt the driver to perform a brake intervention; - Labuhn (FIG. 4 and Column 8, lines 31-32, 36-43 and 52-53) - Labuhn's alert is not called a takeover alert; however, it does notify the driver when the vehicle gets critically close to the target object and something not automatic needs to be done. However, at col.4 lines 2-7 Labuhn specifies

> "The alert module 14 may take the exemplary form of a vehicle instrument cluster or other display panel visual and/or audible alerting apparatus for conveying predetermined adaptive cruise control system information to the succeeding vehicle operator."

Asada, in the same art, classifies the location of a preceding vehicle according to the areas shown in Fig. 8 and uses that data in the flowchart of Fig. 6. At col. 14, lines 40-45 Asada raise an alarm of "step on brake" due to reaching this critical distance. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the illustrated brake alert as one of the alerts that can be predetermined for a cruise control system in order to yield the predictable result of improved stopping,

wherein the activation or deactivation of the takeover prompt occurs – Lebuhn (FIG. 4 and Column 8, lines 66-67 and Column 9, lines 1-2) **as a function of at least one of: i) a fixed minimum distance between a distance-controlled and speed- controlled vehicle and the target object,** - Labuhn (FIG. 4 and Column 8, lines 66-67 and Column 9, lines 1-2) **ii) a relative speed-dependent minimum distance of the distance-controlled and speed-controlled vehicle in relation to the target object,** - Lebuhn (FIG. 4, block 411, where VR'TB is the relative speed-dependent minimum distance as described in Column 3, lines 54-56), **and iii) a maximum vehicle deceleration producible by the distance and speed controller,** - Lebuhn (FIG. 4, block 423 where DMAX is represents a deceleration limit as described in Column 9, lines 53-62) **and**

wherein the takeover prompt is further output when the driver overrides the distance and speed controller by depressing an accelerator and the vehicle comes critically close to the target object. – Labuhn does not discuss the alert's mechanism in detail nor the alert's action when the driver overrides the controller by accelerating, but Winner, which teaches a vehicle with an Adaptive Cruise Control (ACC) System, addresses this. This system allows the driver to override the system either by engaging the directional signal or by accelerating. As stated at col. 8 lines 65 to col. 9 line 3:

> "In addition, provision may be made that while the distance control may be interrupted as described in connection with Fig. 3, at an intentional acceleration of the vehicle by the driver, a reduction of the safety distance may be indicated

by a visual or audible alarm, so that if he so desires the driver may abandon the process of acceleration."

Thus if the operator depresses the accelerator causing the vehicle to make a dangerous approach to an obstacle, the collision alarm will be emitted. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Winner's prior art elements of notifying the driver in Labuhn's system to yield the predictable result that the driver is notified of the impending dangerous approach to an obstacle regardless of how that condition came about and can take evasive action.

Regarding **claim 10, The method as recited in claim 9, wherein the takeover prompt is at least one of: a visual display in a field of view of the driver, and an acoustic signal in an interior of the vehicle.** – Labuhn (Column 3, lines 63-65, Column 4, lines 2-7). Labuhn does not explicitly disclose the display is in a field of view of the driver and an acoustic signal is in an interior of the vehicle. However, it is well known that the vehicle instrument cluster or other display panel is in the field of view of the driver and/or audible alerting apparatus for operator is an acoustic signal in an interior of the vehicle as the operator is inside of the vehicle while operating the vehicle (Column 3, lines 63-64, Column 4, lines 5-7).

Regarding **claim 12, The method as recited in claim 9, wherein activation thresholds and deactivation thresholds of the takeover prompt are not identical.** - Labuhn (FIG. 4, Column 8, lines 18-31).

Regarding **claim 13, The method as recited in claim 9, wherein the distance and speed controller emits and receives radar signals, with the aid of which preceding vehicles can be recognized as target objects.** - Labuhn (Column 1, lines 27-29, Column 3, lines 50-57).

Regarding independent **claim 14, A device for the distance and speed control of a motor vehicle,**- All three references deal with a vehicle having an adaptive distance and speed controller and Labuhn (Column 2, lines 62-64 and Column 3, lines 10-12, 50-54), **comprising:**

an arrangement which outputs a takeover prompt, informing a driver that the vehicle is coming critically close to a target object to prompt the driver to perform a brake intervention, - - Labuhn (FIG. 4 and Column 8, lines 31-32, 36-43 and 52-53) - Labuhn's alert is not called a takeover alert; however, it does notify the driver when the vehicle gets critically close to the target object and something not automatic needs to be done. At col.4 lines 2-7 Labuhn specifies

> "The alert module 14 may take the exemplary form of a vehicle instrument cluster or other display panel visual and/or audible alerting apparatus for conveying predetermined adaptive cruise control system information to the succeeding vehicle operator."

Asada, in the same art, classifies the location of a preceding vehicle according to the areas shown in Fig. 8 and uses that data in the flowchart of Fig. 6. At col. 14, lines

40-45 Asada raise an alarm that commands "step on brake" due to reaching this critical distance. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the illustrated brake alert as one of the alerts that can be predetermined for a cruise control system.

the arrangement being configured so that activation and deactivation of the takeover prompt occurs - Lebuhn (FIG. 4 and Column 8, lines 66-67 and Column 9, lines 1-2) **as a function at least one of:**

i) a fixed minimum distance between the distance- and speed-controlled vehicle and the target object, - Lebuhn (FIG. 4, block 411, where XM is the minimum inter-vehicle spacing as described in Column 7, line 23)

ii) a relative speed-dependent minimum distance between the distance- and speed-controlled vehicle and the target object, -- Lebuhn (FIG. 4, block 411, where VR'TB is the relative speed-dependent minimum distance as described in Column 3, lines 54-56) **and**

iii) a maximum vehicle deceleration producible by the distance and speed controller, - Lebuhn (FIG. 4, block 423 where DMAX is represents a deceleration limit as described in Column 9, lines 53-62)

wherein the takeover prompt is further output when the driver overrides the distance and speed controller by depressing an accelerator and the vehicle comes critically close to the target object. - – Labuhn does not discuss the alert's mechanism in detail nor the alert's action when the driver overrides the controller by accelerating, but Winner, which teaches a vehicle with an Adaptive Cruise Control

(ACC) System addresses this. This system allows the driver to override the system either by engaging the directional signal or by accelerating. As stated at col. 8 lines 65 to col. 9 line 3:

> "In addition, provision may be made that while the distance control may be interrupted as described in connection with Fig. 3, at an intentional acceleration of the vehicle by the driver, a reduction of the safety distance may be indicated by a visual or audible alarm, so that if he so desires the driver may abandon the process of acceleration."

Thus if the operator depresses the accelerator causing the vehicle to make a dangerous approach to an obstacle, the collision alarm will be emitted. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Winner's prior art elements of notifying the driver in Labuhn's system to yield the predictable result that the driver is notified of the impending dangerous approach to an obstacle regardless of how that condition came about and can take evasive action.

Regarding **claim 15, The device as recited in claim 14, further comprising: a display device, the display device displaying the takeover prompt in a field of view of the driver.** - Labuhn (Column 3, lines 63-65, Column 4, lines 2-7). Labuhn does not explicitly disclose the display device is in a field of view of the driver. However, it is well known that the vehicle instrument cluster or other display panel visual and/or audible alerting apparatus for operator interfacing provides visual display in a field of view of the driver as the operator is inside of the vehicle while operating the vehicle (Column 3, lines 63-64, Column 4, lines 5-7).

Regarding **claim 16, The device as recited in claim 14, further comprising: an acoustic device, the takeover prompt being output as an acoustic signal by the acoustic device in an interior of the vehicle.** - Labuhn (Column 3, lines 63-65, Column 4, lines 2-7). See paragraph 2a above. Labuhn does not explicitly disclose the acoustic device is in an interior of the vehicle. However, it is well known that the vehicle instrument cluster or other display panel visual and/or audible alerting apparatus for operator interfacing provides an acoustic signal in an interior of the vehicle as the operator is inside of the vehicle while operating the vehicle (Column 3, lines 63-64, Column 4, lines 5-7).

Regarding **claim 17, The device as recited in claim 14, further comprising: a radar device, the radar device configured to emit and receive radar signals so that a preceding vehicle can be recognized as a target object.** – Labuhn (Column 1, lines 27-29, Column 3, lines 50-57).

Regarding **claim 18, The device as recited in claim 14, further comprising: a display device, the display device displaying the takeover prompt in a field of view of the driver; and**

an acoustic device, the takeover prompt being output as an acoustic signal by the acoustic device in an interior of the vehicle. - Labuhn (See rejections of claims 15 and 16, above).

Regarding **claim 19, The device as recited in claim 18, further comprising: a radar device, the radar device configured to emit and receive radar signals so that a preceding vehicle can be recognized as a target object.** – Labuhn – See rejection of claim 17 above

Regarding **claim 21, The method as recited in claim 14, wherein activation thresholds and deactivation thresholds of the takeover prompt are not identical.** - Labuhn – see rejection of claim 12 above.

Regarding **claim 22, The method as recited in claim 21, wherein the distance and speed controller emits and receives radar signals, with the aid of which preceding vehicles can be recognized as target objects.** – Labuhn See rejection of claim 13 above

Regarding **claim 23, The device as recited in claim 14, further comprising:**

at least one of a display device, the display device displaying the takeover prompt in a field of view of the driver, and an acoustic device, the takeover prompt being output as an acoustic signal by the acoustic device in an interior of the vehicle; and - Labuhn (Column 3, lines 63-65, Column 4, lines 2-7). (See discussion at claim 15 above) and (Column 3, lines 63-65, Column 4, lines 2-7). (See discussion at claim 15 above)

a radar device, the radar device configured to emit and receive radar signals so that a preceding vehicle can be recognized as a target object; - Labuhn (Column 1, lines 27-29, Column 3, lines 50-57) (See discussion at claim 17 above).

wherein activation thresholds and deactivation thresholds of the takeover prompt are not identical, and (See rejection of claim 21, above).

wherein the distance and speed controller emits and receives radar signals, with the aid of which preceding vehicles can be recognized as target objects. (See rejection of claim 22, above).

Regarding **claim 24, The method as recited in claim 9, wherein the takeover prompt is at least one of:**

a visual display in a field of view of the driver, and

an acoustic signal in an interior of the vehicle, Labuhn - (Column 3, lines 63-65, Column 4, lines 2-7) (See discussion at claim 10 above)

wherein activation thresholds and deactivation thresholds of the takeover prompt are not identical, and - Labuhn (FIG. 4, Column 8, lines 18-31) (See discussion at claim 12 above)

wherein the distance and speed controller emits and receives radar signals, with the aid of which preceding vehicles can be recognized as target objects.- Labuhn (Column 1, lines 27-29, Column 3, lines 50-57) (See discussion at claim 12 above).

Regarding **claim 25, 28, 31, 34 - The method as recited in claim 9, wherein the activation or deactivation of the takeover prompt occurs as a function of a fixed minimum distance between a distance- controlled and speed-controlled vehicle and the target object.** - Labuhn (FIG. 4 and Column 8, lines 66-67 and Column 9, lines 1-2) and Labuhn (FIG. 4 and Column 8, lines 66-67 and Column 9, lines 1-2)

Regarding **claim 26, 29, 32 and 35 The method as recited in claim 9, wherein the activation or deactivation of the takeover prompt occurs as a function of a relative speed-dependent minimum distance of the distance-controlled and speed-controlled vehicle in relation to the target object.** - Labuhn (FIG. 4, block 411, where VR'TB is the relative speed-dependent minimum distance as described in Column 3, lines 54-56),

Regarding **claim 27,30, 33 and 36 The method as recited in claim 9, wherein the activation or deactivation of the takeover prompt occurs as a function of a maximum vehicle deceleration producible by the distance and speed controller.** - Labuhn (FIG. 4, block 423 where DMAX is represents a deceleration limit as described in Column 9, lines 53-62)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is listed on the enclosed PTO form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIN B. OLSEN whose telephone number is (571)272-9754. The examiner can normally be reached on Mon - Fri, 8:30 -5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lin B Olsen/
Examiner, Art Unit 3661

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661